THE NEW

4

CRASH TESTED

SEATING SYSTEM

DISCOVERY EDITION

The Perfect Partnership

USER MANUAL

EDTION TWO

2012

CE

RMS Rehabilitation Manufacturing Services Limited

ISO 9001:2008 REGISTERED FIRM

INTRODUCTION

The Gill 4 Seating System is the result of experienced, thoughtful design and rigorous testing over 16 months of field trials, in-house testing and frontal impact testing. The Gill 4 Seating System was successfully tested to ISO 16840-4 at the Transport Research Laboratory in March 2012.

Many adjustable features have been built into the Gill 4, enabling it to become an extremely versatile seating system, available in three sizes.

With two backrest options available, the Gill 4 Seating System has been designed specifically by our engineers, to meet the known wide range of demands placed on postural positioning seat units.

The “Dynamic” Backrest option, offers the ability to absorb the type of thrusting forces, placed on it during user extensor spasms, with a uniquely designed absorbing system, which is variable to suit individual user requirements.

The “Fixed” Backrest option, offers the same supportive capabilities as a normal rigid back seat unit, but with angle adjustment available to 90, 95 and 100 degrees.

RMS Ltd reserves the right to change without notice, the design, methods of manufacture, or raw materials used in the construction of the Gill 4 Seating System, where it considers such changes will serve to improve the product quality, or become necessary to meet any changes in device legislation.

Should the reader have any concerns regarding the installation, set-up, adjustments, or use of the Gill 4 Seating System, please contact the RMS Ltd Technical Help-line on 01634-578881.

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Fig. 1

Gill 4 SEAT PLAN

RMS Type “D” Headrest with angle-adjustable stem
Removable and Machine washable Upholstery
Positive Locking Swing-away Thoracic Supports
Padded Pelvic Supports
Adjustable Anti-Thrust Cushion
Adjustable Sacral Support
Height and Depth-adjustable Sidearms
Dynamic Thrust Absorber
Removable Footrest Support Frame
Depth-adjustable Backrest Support

Both Fixed and Dynamic Seat Units are supplied as standard, with the following features:-

- Quick-release Interface.
- Depth-adjustable Anti-thrust Seat Cushion.
- Width adjustable full-length fixed Pelvic Supports.
- Width adjustable swing-away Thoracic Supports.
- Adjustable Sacral Support.
- RMS type “D” Headrest.
- RMS PB003 Pelvic Belt.
- Machine washable, removable Upholstery.

Optional Accessories available:

Footrest Mounting Frame c/w multi-positional Footplates, Anklesure Foot Controls, Sidearms with height and depth adjustment, Leg Abductors, Various Harnesses and Pelvic Belt options. Clear plastic or Ply laminate Contoured Trays (for use with G4-05-01 Sidearm Kits)

SAFETY GUIDELINES

Due to the various activities that a wheelchair user has to perform, RMS Ltd recommends that, prior to issuing the GILL 4 Seating System and the wheelchair into which it is to be interfaced, this manual, together with any wheelchair manufacturer' User Guide, should be studied by all relevant persons, to ensure that all instructions, procedures and warnings are carefully observed and understood.

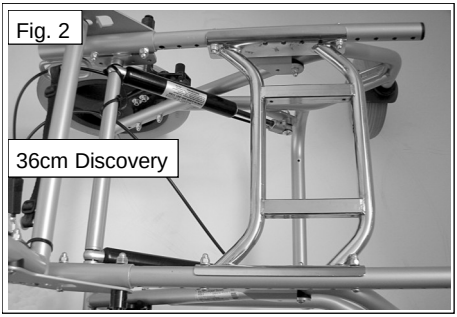
- For correct support and user comfort, it is strongly recommended that the initial installation any adjustments and final hand-over are carried out by a suitably qualified person.
- The maximum occupant capacity of a complete GILL 4 Seating System for transportation purposes, when interfaced into a wheelchair with a seat width up to 17", is **50Kg (7.8 stones).**
- As the installation of a GILL III System may raise or position the user further forward in their wheelchair, an appropriate stability test should be carried out prior to final commissioning.
- After the GILL 4 Seating System has been initially adjusted to suit the individual user, any settings should not be affected subsequently, by the removal and refitting of the Seat Unit to allow the wheelchair to be folded. However, care should be taken not to impact adjustable components whilst the Seat Unit is removed from the wheelchair, as this could affect their original pre-set position.
- To accommodate any changes in user growth or postural positioning, it is recommended that the user be checked at regular intervals by a suitably qualified person, to ensure that adjustable components are correctly set to suit the user's current requirements.
- Carers should ensure correct utilisation of any positioning Straps or Harnesses, as failure to do so could result in injury to the user. It is recommended that any Postural Straps or Harnesses being used, are the first items to be secured when the user enters the seat and the last items to be released before exiting.
- Worn or damaged upholstery can lead to hygiene contamination, cause injury to the user and, in some cases, fail to support the user correctly. Regular inspections of all upholstery should be made and any defects should be reported to the relevant authority for rectification as soon as possible.
- Ancillary devices, such as the Headrest, positioning Straps and Harnesses, Kneeblock or Pommel should be checked for security and positioning on a daily basis.
- The wheelchair parking brakes should always be applied before attempting to transfer the occupant, removing or refitting the GILL 4 System or making any adjustments.
- Never hang heavy objects on the GILL 4 Seating System or any part of the wheelchair, as this could seriously affect the overall wheelchair stability.

INITIAL INSTALLATION

The information contained in this User Manual, relates to the Gill 4 Seating System being interfaced with an appropriate sized Otto Bock Discovery wheelbase, fitted with an M30 Parallel Adapter Frame.

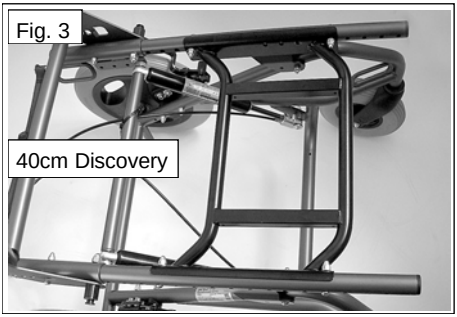
IMPORTANT NOTES:

- **The Gill 4 Seating System and Discovery wheelbase, when supplied as a "G4—Disco Package", will be assembled ready to be interfaced together. However, the installer should note that whilst the Gill 4 and Discovery will leave RMS Ltd set to the specifications detailed on the original assessment prescription, some minor adjustments of either the Seat or Backrest components may be necessary to ensure the final correct seating support is achieved.**
- **Any reference to Left or Right in this manual, will refer to the Left or Right side when sitting forward facing in the Seat Unit.**



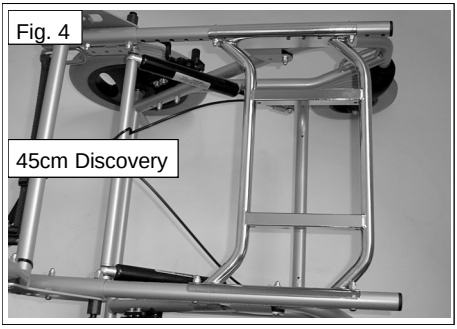
Gill 4—Discovery Compatibility:

Where a Gill 4 Seating System is supplied for use with a currently owned Discovery wheelbase, it will be necessary to ensure that the correct *****Interface Parallel Adapter, as detailed below, is securely installed onto the wheelbase in the most suitable position.



Gill 4 size 1— 36cm Discovery only.
Use RMS G4 size 1 interface with
*****M30 Parallel Adapter HR32048200

Gill 4 size 2— 40cm Discovery only.
Use RMS G4 size 2 interface with
*****M30 Parallel Adapter HR32048300



Gill 4 size 3— 45cm Discovery only.
Use RMS G4 size 2 interface with
*****M30 Parallel Adapter HR32048400

NOTE:
Whilst Figs.2, 3 and 4 give examples of the Parallel Adapters fitted to three sizes of Discovery wheelbases, some slight adjustment of these may be necessary where stability becomes an issue created by changes in the user's disability.

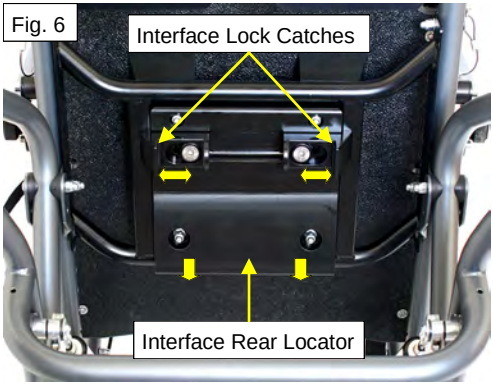
INSERTING the Gill 4 into the DISCOVERY WHEELBASE

- With the Interface Adapter securely fitted and both wheelbase parking brakes applied, recline the wheelbase Backrest/Push Handles rearwards to allow better manoeuvrability during installation of the Seat Unit.
- Position the Gill 4 Seat Unit on the Discovery wheelbase, directly over the Interface Adapter.
- Introduce the Gill 4 Seat Unit into the Interface Adapter, by raising the front of the seat (**1**) Fig.5, approximately 100mm (4") from horizontal.
- This will allow the Seat Unit to slide rearwards (**2**) Fig.5 and enable the Interface Rear Locator section to engage under the rear frame of the Interface Adapter Fig.6.

Fig. 5

- Lower the Gill 4 Seat Unit (**3**) Fig.5, until the Interface Lock Catches engage Fig.6.

Fig. 6



REMOVAL of Gill 4 from Discovery Wheelbase

Should it become necessary to remove the Gill 4 from it's surrogate base, ensure the wheelbase parking brakes are fully applied.

- Recline the wheelbase Backrest/Push Handles rearwards
- Whilst supporting the Gill 4 Backrest with one hand, release both Interface Locking Catches by compressing the release levers Figs.7 & 8.
- Lift the Gill 4 Seat Unit at the front by approximately 100mm (4") then lift the Seat forwards and upwards clear of the wheelbase.

Fig. 7

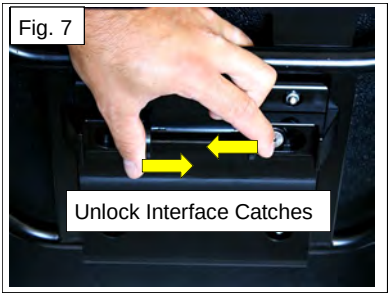
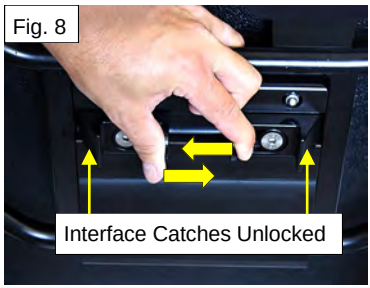


Fig. 8



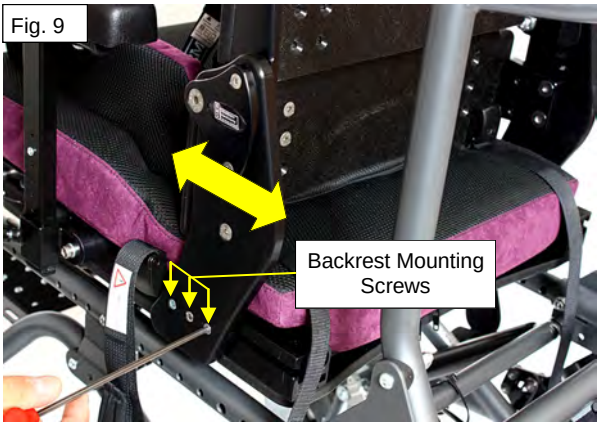
ADJUSTING the Gill 4 SEATING SYSTEM

All Gill 4 Seating Systems, will be supplied by RMS Ltd, to the specifications detailed on the initial prescription. However, further initial adjustments may be necessary at the time of delivery, to suit individual requirements.
Periodic adjustments may also be necessary to allow for changes in the user's disability, user growth and the user's need for changes in seasonal clothing.

Seat Depth adjustment Tool Required: 4mm Hexagon Key.

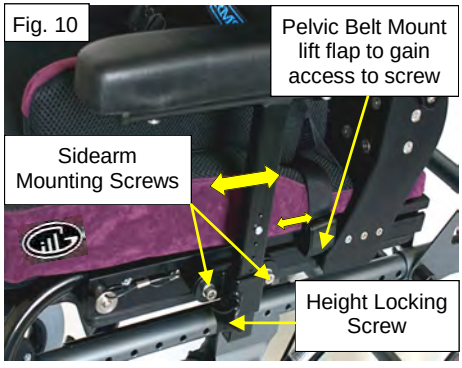
The Seat Depth is adjusted by **slackening** three screws on each side of the lower Backrest Mountings Fig.9 and moving the Backrest forwards or rearwards equally, within the seat rail tracks.
After achieving the required seat depth, retighten all screws on both sides sufficient to prevent any movement.

Fig. 9



NOTE: Following the Backrest adjustment, it may be necessary to move the Pelvic Belt Mountings and / or Sidearm Frame Mounting positions.
A 4mm Hexagon Key is required to adjust the Pelvic Belt position, Fig.10. Flip-up the Belt Mounting cover, to expose the mounting screw. **Slacken only**, adjust Belt Mounting position and retighten screw, sufficient to prevent any movement. The initial Pelvic Belt length should also be adjusted at the Mountings before re-securing the Mounting cover.
The standard Pelvic Belt is of the "single-pull" type which is finally adjusted after connecting the Main Buckle, by simply pulling the D-ring belt.

Fig. 10



A 5mm Hexagon Key is required to adjust the Sidearm Frame Mounts.
Remove the black Height Locking Screws to access the front Sidearm Mounting screw.
Slacken both screws, move Frame to required position and retighten both screws, sufficient to prevent any movement.
Secure Sidearm at required height, by refitting and tightening the black Height Locking Screw Fig.10.

SACRAL SUPPORT PANEL

Tool Required: 4mm Hexagon Key.

The Sacral Support Panel is adjustable forwards of the Backrest Panel for up to 25mm. Access to the mounting screws is from each side of the Backrest Support Brackets Fig.11, with the slotted Sacral Support Panel Mountings located on the inner face of the Backrest Support Brackets at the rear of the Backrest Panel Fig.12. To adjust the Sacral Support Panel, **slacken only** the two screws on each side as indicated in Fig.12, re-position the Sacral Support Panel as required, equally on each side and re-tighten all four screws sufficient to prevent any movement.

Fig. 11

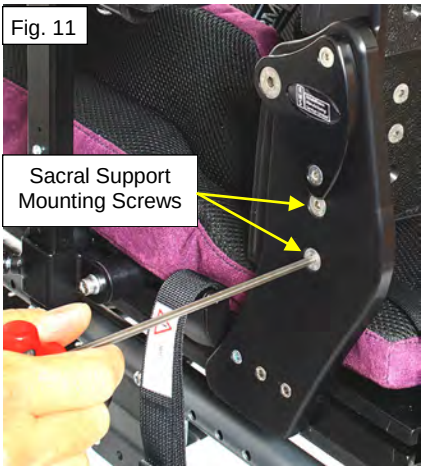


Fig. 12

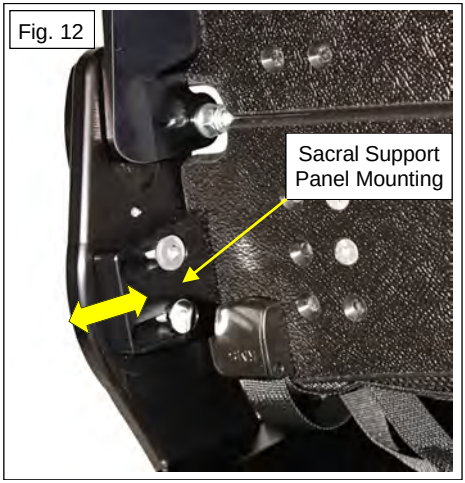
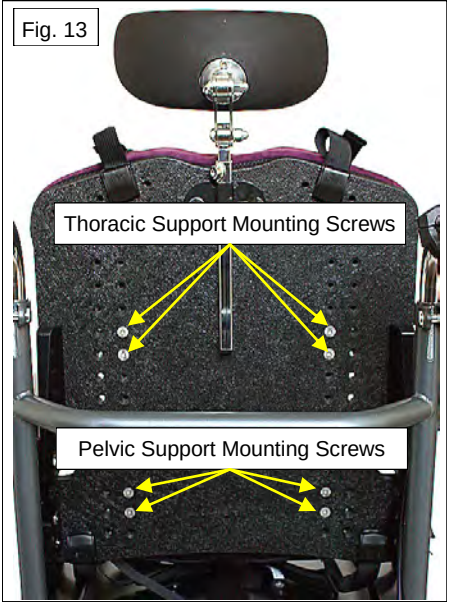


Fig. 13



Pelvic Supports

Tool Required: 4mm Hexagon Key.

The Pelvic Supports are attached to the Sacral Support Panel by Mounting Brackets and are both height and width adjustable. Access to their mounting screws is from the rear of the seat unit Fig.13.

To adjust the Pelvic Supports laterally, **slacken** both Support Mounting screws and slide Support sideways to the required position. Alternative mounting holes are also available for each Support, enabling the Support Mounting to be re-positioned a further 25mm laterally and vertically. Care should be taken to retain the threaded Key Washers located on the forward face of the Mounting Brackets, Fig.15.

LATERAL (Thoracic) SUPPORTS

Tool Required: 4mm Hexagon Key.

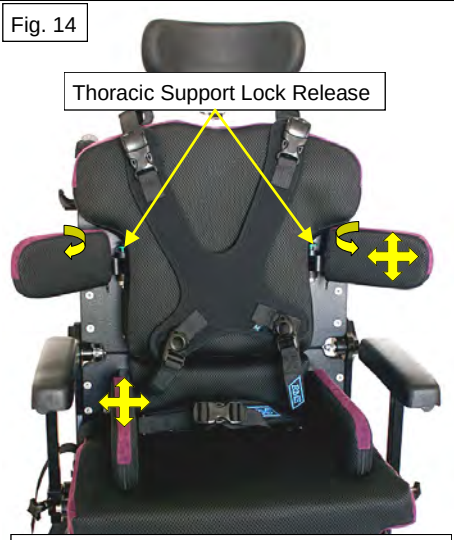
The Gill 4 Seating System is supplied with “Swing Away” Thoracic Supports as standard Fig.14. These have a positive locking mechanism in the forward pointing position.

Depressing the green button on the Mounting Brackets, will release the locks and allow the Support Pads to swing away during user transfers.

The Thoracic Supports are both width and height adjustable, with access to their mounting screws at the rear of the Backrest Panel Fig.13.

Initial width adjustment can be made by **slackening** both mounting screws on each Mounting Bracket and moving each Pad assembly sideways to the required position. Retighten all screws sufficient to prevent any movement.

Fig. 14

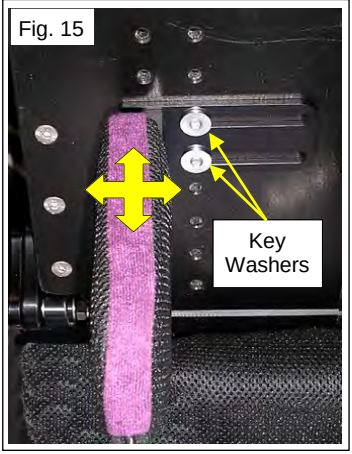


NOTE: The RMS Dynamic Harness shown, are available as optional accessories.

A matrix of mounting holes in the Backrest Panel Fig.13, enables the Thoracic Supports to be raised or lowered at 25mm intervals and to position the Supports 25mm further outwards, when initially mounted using the inner rows of holes.

To make these adjustments, both screws on each Mounting Bracket must be **removed**. Care should be taken to retain the threaded Key Washers located on the forward face of the Mounting Brackets, Fig.15.

Fig. 15



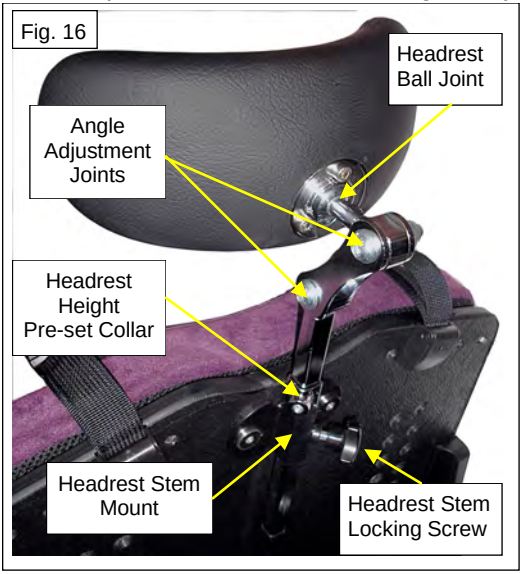
Relocate the Thoracic Supports to their new position by holding the Support, together with one Key Washer, over the intended position and inserting a mounting screw through the Backrest Panel from the rear. Engage the screw a few threads into the first Key Washer, before adding the second Key Washer and screw. Tighten both screws evenly, sufficient to maintain their position, but not fully tightened as further minor lateral adjustment maybe necessary with the user seated. Repeat with the opposite Support.

When the correct positioning is achieved, fully tighten both screws on each Thoracic Support Bracket, sufficient to prevent any movement.

The HEADREST

The Gill 4 Seating System, is fitted as standard, with an RMS Type D Headrest, incorporating a Ball—mounted, Angle Adjustable Stem with height pre-set collar and a two screw fixing Backrest Mount.

Tools Required: 3, 4 and 5mm Hexagon Keys. 13mm Spanner.



Correct positioning of the Headrest to suit individual requirements, is normally achieved by a combination of adjustments.

Refer to Fig.16

The Ball—Mount built into the Headrest, enables the Headrest to swivel around the ball. The three screws should be slackened to allow correct positioning and always retightened evenly to maintain the Headrest position.

The Angle Adjustable Stem has two pivot points, both of which should be slackened to enable the Headrest to be moved in a forward or rearward direction. Fully tighten both M8 nuts sufficient to prevent any movement.

The overall height of the Headrest and Stem assembly, is locked-off by the Headrest locking Screw located on the Stem Mount attached to the Backrest.

To enable the Headrest to be refitted to the same height each time after removal, the Stem is supplied with a height pre-set collar. This should be locked in place by it's grub-screw, when all other Headrest positioning adjustments have been completed. The Headrest should therefore, always removed and refitted as an assembly.

Gill 4 Dynamic Backrest Units only.

IMPORTANT NOTES:

The Gill 4 Dynamic Seat Unit, will be supplied with the appropriate Pressure Absorbing Backrest setting, as prescribed at the intended user's assessment.

The Backrest Pressure Absorbing action, should be reviewed at regular intervals, as any changes in the user's disability may require alternative Pressure Absorbers.

WARNING: Inappropriate changing of the Dynamic Pressure Absorbers, could reduce the overall effectiveness of the Backrest, creating premature wear. Therefore, changes to the initially prescribed setting, should only be carried out by a suitably qualified person, following the instructions enclosed with the alternative Pressure Absorber Kit, available from RMS Sales. [Cont]

Gill 4 Fixed Backrest Units only.

Fixed Back Gill 4 Seat Units, will be supplied with the Backrest pre-set to the angle requested on the initial prescription (90°, 95° or 100°). **This angle should only be changed by a suitably qualified person, following the instructions enclosed with the alternative Angle Positioning Insert Kit, available from RMS Sales.**

FOOTRESTS (Optional)

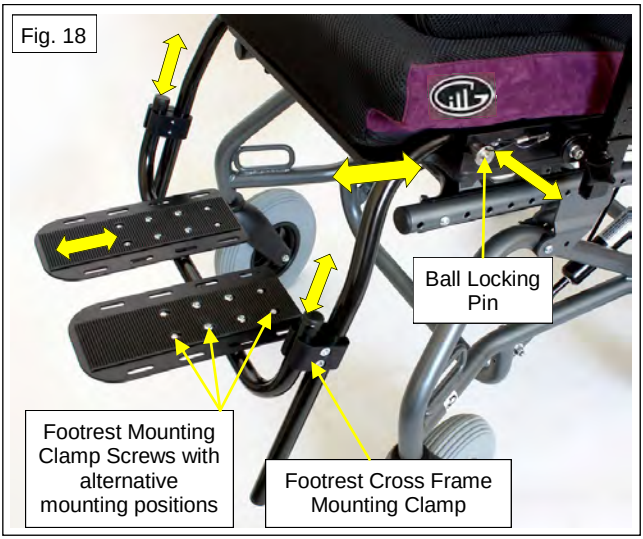
Tools Required: 4 and 5mm Hexagon Keys.

The Footrest Frame assembly, complete with multi-positional footplates mounted on a height adjustable cross-frame is inserted into the front of the Seat Rails and secured in place by a Ball Locking Pin located at each side of the Seat Fig.17. Removal, is by depressing the centre button on each Locking Pin and fully withdrawing both Pins. Slide the Frame assembly forwards, clear of the Seat Unit.

Fig. 17

Height adjustment of the Footrests is made by slackening both Cross Frame Mounting Clamps Fig.18, to allow the Frame to be raised or lowered to the required height. Retighten all clamping screws evenly, sufficient to prevent any movement.

Fig. 18


Ball Locking Pin
Footrest Mounting Clamp Screws with alternative mounting positions
Footrest Cross Frame Mounting Clamp

The multi-positional Footrests are angle adjustable by their ability to rotate around the Cross Frame.

To change the angles or positions of the Footrests, slacken all four clamping screws on each Footplate, rotate / re-position as required and re-tighten all clamping screws evenly.

The Footrests may also be positioned either further forward or rearward of their supplied central mounting position, by removing all clamping screws on each Footrest and repositioning the Footrest over it's clamp. All screws must be tightened evenly to ensure maximum clamping on the Cross Frame and sufficient to prevent movement.

ANKLESURES (Optional)

Tools Required: 4mm Hexagon Key and 8mm Spanner.

RMS Anklesures, are devices intended for use to control unwanted foot movements and are easily fitted to the Multi-positional Footrests recommended for use with the Gill 4 Seating Systems.

Anklesures are available in five sizes and manufactured to suit left and right side fitting. To ensure correct comfort and to achieve their intended purpose, it is recommended they are fitted by a suitably qualified person.

Fig. 19

Installing Anklesures

Initially, two special Mounting Bridges must be installed onto each Footrest, as shown in Fig.19, using the screws, nuts and washers, supplied in the Anklesure Kit.

Care should be taken not to over-tighten the screws.

Fig. 20

For ease of use when fitted, it is recommended that the Tri-glide, through which the ankle-band strap is routed, and then pulled back on itself, should be towards the inside of each foot as Fig.19.

To attach each Anklesure to its Mounting Bridges, route the free end of each vertical side strap, downwards on the foot side of the Bridges, then under the Bridges and back upwards on the outside of the Bridges, then finally thread the strap through its own Tri-glide as Figs.20. These straps should be adjusted with the user seated to ensure correct positioning.

To use the Anklesures, open out each ankle-band sufficient to enable the user's foot to be placed inside. With the ankle-band strap routed through its Tri-glide, pull the strap gently back on itself to achieve the correct contact and secure via the Velcro panel.

Whilst correct positioning of the Anklesures will depend on the user's requirements, care should be taken not to over-tighten these devices.

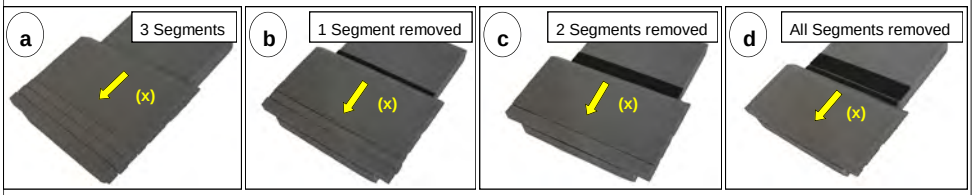
DEPTH ADJUSTABLE Anti-Thrust CUSHION

No Tools are required for this adjustment.

The Gill 4 Anti-thrust Seat Cushion has been specially designed to offer an adjustable depth of anti-thrust shelf. Adjustment of 50mm is available with the size One Gill 4, with 75mm available for the sizes Two and Three.

Fig. 21

Fig. 22



To adjust the anti-thrust shelf depth, remove the Seat Cushion from the Seat Base-board Fig.21. Turn the Cushion upside-down and fully un-zip the fabric Cover to expose the foam Cushion Pad Fig.22. Remove the Pad from its cover and turn over with the anti-thrust shelf at the top.

NOTES:

- Fig.(**a**) above, shows the initial Cushion Pad lay-out for the Gill 4, sizes **Two** and **Three**. Fig.(**b**) shows the initial lay-out for the size **One** Gill 4.
- A "Sun-Mate" foam panel is enclosed in a pocket below the upper surface fabric of the Seat Cushion Cover, (Not Shown). DO NOT remove this foam panel from the Cover, when carrying out adjustments.

Depth adjustment of the anti-thrust shelf is achieved by removing the 25mm Velcro attached segments from the Base Pad and moving the larger top Pad (**x**) forwards to achieve the required depth.

Refit the Seat Cushion Cover (both Zip pulls should finish at the rear of the Cushion) and reinstall Cushion onto the Gill 4 Seat Base Board.

LEG ABDUCTOR (Pommel) (Optional) INSTALLATION

Tools Required:
4mm Hexagon Key

The Gill 4 Pommel Fig.23, is intended to assist with user positioning, by offering adjustable, multi-directional Pads, mounted on a height adjustable vertical Stem and depth adjustable horizontal Stem. The Pommel assembly can be easily inserted into it's Pop-Pin type Receiver Mount, located under the front of the Seat Panel.

Where a Pommel is not supplied initially, with the Gill 4 Seat Unit, a Receiver Mount (Supplied with the Pommel), must be fitted under the Seat Panel. Lift the front of the Seat Cushion to locate the two pre-drilled holes at the front of Seat Panel intended for this purpose, Fig.24.

Fig. 23

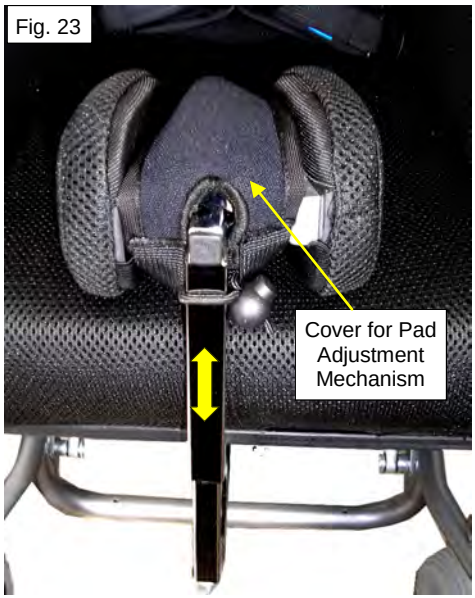
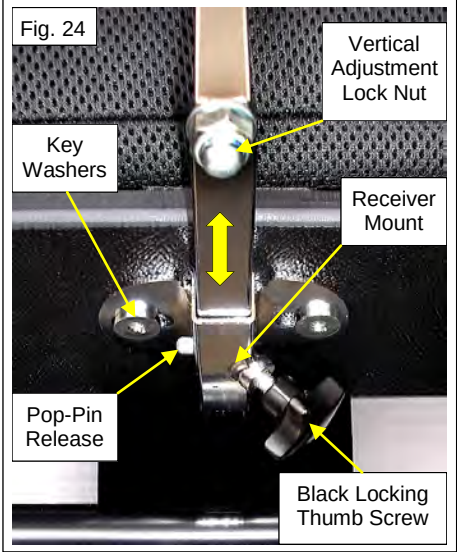
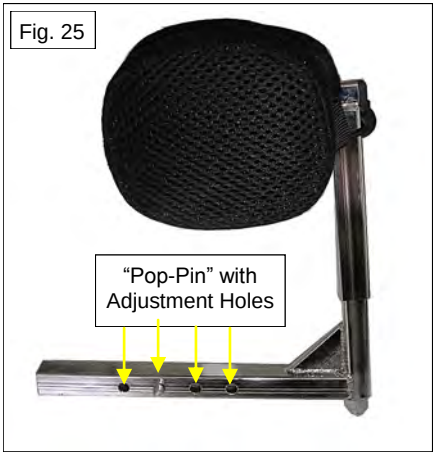


Fig. 24



Using the screws and threaded key washers supplied, attach the Receiver Mount centrally to the underside of the Seat Panel, with the black Thumb Screw towards the left-side of the Seat Unit.
Tighten both screws sufficient to prevent any movement, ensuring that the threaded key washers are correctly located in their slots Fig.24.

Fig. 25

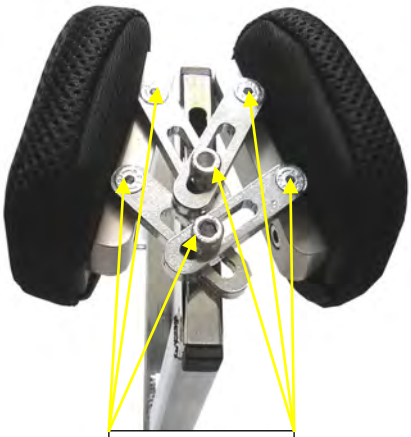


The horizontal Stem is fitted with a spring "Pop-Pin" that can be inserted into one of four holes Fig.25. This combination enables depth adjustment in 25mm increments.

LEG ABDUCTOR (Pommel) PAD ADJUSTMENT

Tools Required: 3mm and 5mm Hexagon Keys and 13mm Spanner.

Fig.26



Pad Adjustment Mechanism Screws

To ensure correct comfort and to achieve its intended purpose, it is recommended that this device be adjusted by a suitably qualified person.

Initially it will be necessary to remove the Cover, Fig.23, from the Pad Adjustment Mechanism.

To allow the Pommel Pads to be suitably repositioned, slacken all pivot point Pad Adjustment Mechanism screws, Fig.26.
The "Finger" style mechanism enables the Pads to be rotated around their pivot points to achieve positions to suit most requirements including asymmetrical positioning.
All Pivot Point Screws should be tightened sufficient to prevent any movement.
Refit Adjustment Mechanism Cover, with the plastic draw string lock button towards the front. With the Cover snugly fitted, pull draw string tight and secure lock button in place. **IMPORTANT NOTE:** As there is a potential for small fingers to be trapped within an exposed "Finger" Mechanism, it is **essential** that the Cover Fig.23, is correctly refitted after carrying out any adjustments.

Final height adjustment can be completed, by slackening the M8 Domed Nut located at the bottom of the vertical Pommel Stem, Fig.24. Raise or lower the Pommel upper Stem as required then retighten the M8 Domed Nut sufficient to prevent any movement.

To remove the Pommel assembly from the Seat unit, Slacken the Black Locking Thumb Screw Fig.24, depress the spring "Pop-Pin" and slide the Pommel assembly forwards clear of the Seat Base.
To refit Pommel, depress spring "Pop-Pin" on the horizontal Stem to allow it to enter the Pommel Mount. Slide Pommel Device rearwards until the spring "Pop-Pin" engages into its locking hole in the side of the Receiver Mount. Re-secure the Black Thumb Screw, sufficient to prevent any movement.

NOTE: Positioning of the Pommel components, should not be affected by it's removal and refitting, although safe storage of the device is strongly recommended when removed from the Gill 4 Seat unit.

UPHOLSTERY

Unless otherwise requested, your Gill 4 Seating System will be finished in two-tone upholstery.

The main base colour material, will be of black 100% Polyester, 3mm “Spacer” fabric, complemented by colour co-ordinated edging panels of 100% Polyester Agua Libra fabric.

All upholstery items are easily removable, for cleaning or machine washing. Both fabrics are:-

Flame Retardant to BS5852 Crib 5 and meet or exceed BSEN1021.

Anti-Bacterial / Anti Fungal i.e. will not support microbial or fungal growth including Salmonella, E Coli and MRSA.

Waterproof — Water or oil

Breathable — Moisture vapour permeable.

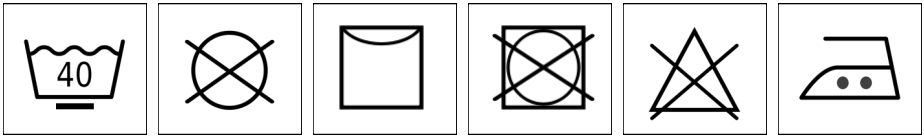
General Fabric Care

- Use of a vacuum cleaner or soft brush, to remove dust and solid particles, together with frequent wiping with a damp cloth, will to help to maintain the appearance of the fabrics.
- ***Spillages*** should always be removed as quickly as possible with an absorbent dry cloth.
- ***Minor Soiling*** can normally be removed with a clean damp cloth.
- ***Water Based Stains*** can be cleaned using mild liquid detergent with warm water. Use cold water for stains produced by bodily fluids, then rinsed thoroughly, followed by drying with a clean absorbent cloth.
- ***Light Steam Cleaning*** can be carried out in situ, ensure all areas are completely dry before reuse.
- ***Machine Washing*** with care @ 40°. Covers must **NOT** be turned inside-out and any zips should be fully closed. Remove from machine as soon as the wash cycle has finished.
- **DO NOT DRY CLEAN**
- ***Line Dry*** ideally the upholstery should be “Line Dried” do **NOT** Tumble Dry. **See Symbols below.**

NOTES:

- All soap residue must be thoroughly rinsed out of all fabrics, as it can attract further stains.
- All stains caused by bodily fluids, should be removed immediately.
- As with all fabrics, stains that are left in situ for over 24 hours will have set and will become increasingly difficult to remove.

Always pre-test cleaners on a hidden area of fabric to test for colour-fastness and texture before proceeding with cleaning.



TRANSPORTATION

- The GILL 4 Seating System, complete with Interface, has been successfully tested to ISO 16840-4 (Seating Devices for use in Motor Vehicles), whilst interfaced on an approved surrogate test base.
  However, this does not imply and is not intended to imply in any way, that the GILL 4 Seating System is suitable for transporting an occupant in a motor vehicle in any other way than with the GILL 4 Seating System being correctly interfaced with a surrogate wheelchair of a type and model which has been successfully tested in its own right, to meet the requirements of ISO 7176-19 (Wheeled mobility devices for use in Motor Vehicles).

- The transporting vehicle **MUST** be suitably equipped with wheelchair and occupant restraint systems compliant with ISO 10542.
  Under No Circumstances should any part of a transportation restraint system, be attached directly to the GILL 4 Seating System.

- Whilst provision is made on the GILL 4 Backrest for attachment of an ancillary Postural Positioning Harness, which, if fitted, should still be utilised as normal during any transportation period, this positioning device should **NEVER** be used as the sole method of occupant restraint during transportation.

The standard recommended restraint system, Part Number **Q-5001-T2**, for transporting the GILL 4 Seating System, the Occupant and Surrogate Wheelchair as detailed above, is available from :

Q-Straint (Europe)
175 John Wilson Business Park, Whitstable, Kent CT5 3RB
Tel. 01227 773035 Fax. 01227 770035

This kit includes a complete set of four-point wheelchair restraints and three-point occupant restraints.
If the intended transporting vehicle is not already fitted with Q-Straint anchorage tracks, details of these can also be obtained direct from Q-Straint (Europe).

NOTE: Installation and use of all restraint systems should always be strictly as per their manufacturers recommendations.

[Cont]

General information regarding Transportation of Wheelchairs, Seating Systems and their Occupants

Please Note:
The information given in this section is intended for guidance only. Any figures and standards quoted are correct at the time of printing but may be subjected to change or update in the future, as a result of ongoing product testing and experience gained by those involved in both the Care and Transportation fields.

There are over 750,000 wheelchair users in the UK. Although thousands travel in motor vehicles every day, very few problems are reported.
However, in the small number of injuries and fatalities recorded, investigations have revealed that the cause is rarely attributed to a piece of faulty equipment.
The majority are the result of inappropriate, inadequate or incorrectly used equipment, which can pose as much a risk to wheelchair users as a vehicle impact.

The main areas where problems are identified :

- Lack of communication between the parties involved, notably with transport service providers before a wheelchair/seating unit is prescribed.
- Lack of comprehensive risk analysis for users.
- Lack of clear product information for users, carers and transporters.
- Inadequate transportation information and training for users, carers, prescribers, service providers and drivers.
- Inappropriate, incomplete or misused, wheelchair tie-down systems (WTORS).
- Inappropriate occupant restraint systems.
- Incorrect use of tail lifts and ramps.
- Wheelchairs blocking gangways and exits during transportation.
- Transportation of unoccupied powered and non-powered wheelchairs without being correctly secured.

Forces Created in a Crash:
The “Crash Test” that wheelchairs, seating systems and restraint systems undergo and have to satisfy, is a 30mph - 20g crash simulation.
This crash simulation represents a severe crash for a small vehicle like a family car, a car derived van (M1 category) or a mini-bus up to 5 tonnes in weight (M2 category).
The crash test assumes that the deceleration rate of the vehicle, will create forces where items of mass will weigh 20 times their normal weight.
(For example a 1Kg bag of sugar would effectively weigh 20Kg).
In comparison, this would mean that a 100Kg powered wheelchair will weigh 2 tonnes and an 85Kg occupant will weigh 1.7 tonnes.

[Cont]

Risk analysis for Wheelchair Transportation:

A comprehensive risk assessment is essential, taking into account the user's requirements and the type of transport they plan to use.

Potential risk areas:

- The user being transferred to a fixed vehicle seat.
- The wheelchair/seating unit being transported as unoccupied luggage.
- The user occupying a wheelchair/seating unit during transportation.
- Ability of the WTORS to hold the wheelchair and/or seating unit together with the user during vehicle movement or in the event of an impact.
- Effects of normal vehicle manoeuvres, such as braking, accelerating and cornering on the wheelchair user.
- Effects of the occupant restraint on the user, both in normal vehicle movement and on impact.
- Effects of the seating unit, wheelchair and / or any accessories being used, on the action of a vehicle anchored occupant restraint in an impact.
- Suitability of any interface that connects the seating unit to the wheelchair.
- Postural support or belt/harness that is not sufficiently strong to withstand the force of an impact.
- Requirements for the use of a headrest to restrict the rearward movement of the head during vehicle motion or impact.
- The effect on other passengers if the user, wheelchair / seating unit or accessories were to become detached during impact.

Wheelchair Security:

Although it may initially appear that the wheelchair and occupant are just one unit to be restrained, the reality is that they are independent of each other yet the forces created in their restraint will interact with each other.

As a result, it is extremely important that restraint of the wheelchair, does not occur through the occupant and their restraint system, in a crash situation.

This now means that the wheelchair, often weighing-in at around 100 Kg, (for an electric powered model) and designed to be very mobile, must now become as close as possible, to being a fixed seat, secured using a restraint system which is independent from the occupant restraint system.

The wheelchair must also be secured in such a way that it cannot tip over, collapse, or break-up, causing injury to the occupant or other passengers in the transporting vehicle.

The restraint systems should be to the wheelchair manufacturers recommendations, as it will be of the type that the wheelchair was successfully crash tested with and therefore proven to be suitable for that application.

[Cont]

Occupant Restraint Considerations:

A prescription should specify the type of occupant restraint required in a vehicle, i.e. a lap and diagonal belt or full harness. The amount of upper body control that the user has during normal vehicle movement should be taken into account. “Normal” movement includes, braking and cornering, which have considerable effect on persons with limited upper trunk control.
Some wheelchair users for example, may be able to maintain an upright posture when using the wheelchair indoors, but not whilst travelling in a motor vehicle.
Such considerations apply equally to lower limb amputees and users in supportive seating units who may also have limited upper body control.

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TECHNICAL DATA

Seat Unit Weights:

	Seat Unit Only	Seat Unit c/w Sidearms and Footrests
Size 1	11.9Kg	15.4Kg
Size 2	14.7Kg	18.1Kg
Size 3	16.9Kg	20.6Kg

Maximum User Weight for Transportation: = 50Kg

Maximum Seat Unit Dimensions:
The following dimensions are taken using the Gill 4 Seat Unit, removed from it’s surrogate base and when fitted with the highest of three available Backrests. The Seat Unit was positioned on a level surface, with the Headrest, Sidearms and Footrest Frame removed.

	Max. Height	Max. Width	Max. Depth
Size 1	640mm	500mm	460mm
Size 2	675mm	560mm	500mm
Size 3	735mm	600mm	600mm

Dynamic Backrests only:
The Dynamic Pressure Absorbers are available in three resistance levels.
For identification, these are colour coded as follows:-

Blue DX Low Resistance
Black DY Medium Resistance
Red DZ High Resistance

[Cont]

Standard issue Dynamic Resistances will be:-

Blue for Size 1 Seat Units
Black for Size 2 Seat Units
Red for Size 3 Seat Units

Fixed Backrests only:
The Fixed Back Gill 4 Seat Units have three fixed angled positions available (90°, 95° or 100°), which are controlled by Angle Positioning Inserts. These are **Brown** in colour, for all sizes of Fixed Backs and all angled settings. Changes in contour will determine the Backrest angle.

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Discovery Wheelbase (relative information):

Wheelbase Weights:
36cm = 35kg 40cm = 40kg 45cm = 40kg

Maximum Load Capacity: All models = 110Kg

Smallest Height: when folded with Push Handles or Push Bar with ratchet joints
All models without wheels = 53cm
With wheels—36cm = 53cm 40cm = 56cm 45cm = 62cm

Maximum Width: with 12" rear wheels
36cm = 55cm 40cm = 59cm 45cm = 64cm

Overall Length: with 12" rear wheels
36cm = 75cm 40cm = 87.5 45cm = 90cm

NOTE: For further information on the use of the Discovery wheelbase, please follow the “Instructions for Use Manual” supplied by Otto Bock, the Discovery wheelbase manufacturer.

WARRANTY STATEMENT

Every effort is made by RMS Ltd., to ensure that your GILL 4 Seating System is manufactured to the highest standards and supplied to the specifications as detailed on the initial prescription.

The supply of our quality products is backed by the company's ISO 9001 –2008 Quality Management System and CE Marking declaration.

The GILL 4 Seating System is supplied with a manufacturer's warranty covering faulty materials or workmanship, for a period of twelve months from the date of dispatch from our factory.

In the unlikely event of a warranty claim being necessary, the failed part must be returned to the manufacturer, or the manufacturer's approved repairer, for inspection. The failed part may then be repaired or replaced at the manufacturer's discretion or that of their approved repairer.
In the latter case, any displaced parts must be returned to the manufacturer for inspection.

Any part, component or accessory, repaired or replaced during the twelve month warranty period, will continue to be covered for the balance of the warranty period only.

As unusually high rates of wear on this device, or its ancillary parts, may be caused by the user's clinical condition, the manufacturer may consider this to be beyond its control. Therefore, items such as Upholstery may only be considered for repair or replacement under the terms of the product warranty, where a failure is clearly attributed to a manufacturing or material defect.

With the exception of modifications and / or alterations carried out by the manufacturer, to meet the clinical needs of the user, any attempt to change the design or modify the construction of the GILL 4 Seating System in any way, will invalidate the product warranty and the manufacturer's CE marking declaration.

For further assistance with any matters relating to the product warranty or product Technical Information, please contact the RMS Ltd Technical Help-line on 01634-578881.

GENERAL INFORMATION

Your GILL 4 Seating System Serial Number is: ……..……

Date of Supply: ……

Supplied to: …….

……..

……

PRODUCT MAINTENANCE

For safety and security reasons, RMS Ltd recommends that all external components such as the Seat Interface, Backrest Mounting, Headrest Mounting, Pelvic Support Mountings, Thoracic Support Mountings and Pommel Mountings are checked for security at regular intervals.
Inspection frequency should be increased accordingly for heavy users.
Any defects should be reported to the appropriate authority, with any repairs being carried out using genuine original equipment replacement parts, available direct from RMS Sales.
(Also refer to Upholstery Maintenance section on page 16).

INSPECTION RECORD

DATE	INSPECTED BY	COMMENTS	SIGNED

Seating Systems

Manufactured By

Rehabilitation Manufacturing Services Limited

Medway House, 277 Gillingham Road, Gillingham, Kent. ME7 4QX

Tel: 01634 578881 Fax: 01634 581456 Email: sales@rms-kent.co.uk

www.ineedawheelchair.co.uk